

9

Date: Wednesday, 1/30/2008 7:52:13 AM  
User: Kim Johnston

# Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : 212/205 HIGH AFT X-TUBE ASSEMBLY
Job Number : 37055	
Estimate Number : 10257	
P.O. Number :	Part Number : D212664201
This Issue : 1/30/2008 S.O. No. :	Drawing Number : D212-664-241 REV C
Prsht Rev. : NC	Project Number : N/A
First Issue : 1/1 Type : LANDING GEAR	Drawing Revision : C
Previous Run : 32684	Material :
Written By :	Due Date : 2/28/2008 Qty: 1 Um: Each
Checked & Approved By : <u>AVS DI 30</u>	
Comment : Est Rev:E 04.02.16 Reformat K/DS	
Est Rev:F 06-03-29 Remove Coments on Pick List JLM	
Est Rev:G 07-04-30 As per Rev C JLM	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-201CHG003

*5 08/01/01 08/04/01*

2.0	D6006129	Crosstube material
-----	----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty.Part number Description Batch

1 D6006-129 Crosstube 26550 X1

Check OD = 3.250"; ID = 2.220" 25666 X1

*20 08/02/05*

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114

2-Turn first side as per Folio FA114

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241 *BC 08.02.26*

*PTO* →

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
-----	-----	------------------------------



Comment: INSPECT ALL DIM TO DIM SHEET

*BC 08.02.27*

*(1)*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D212-664-201 PAR #: NA Fault Category: Prod / Hardware NCR: Yes No DQA: 2 Date: 08/04/07  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>37055</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08-02-26	3	Cull cut off of tube at cull transition. 603 instead of 602 in program for cull transition.	<u>MB</u> 08/03/25	An error was made while entering the program manually. Error corrected. Tube scrapped. Scrap the tapered end & identify the un-machined end for other use for other parts with the same material. REPLACE QTY 1 same B #	<u>BG</u> 08-02-27	<u>MB</u> 08/03/25	<u>MB</u> 08/03/25	<u>MB</u> 08/02-27

NOTE: Date & initial all entries

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Customer: CU-DAR001: Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37055

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA114

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241.

SC 08-02-27 (1)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

SC 08-02-27 (1)

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SC 08/02/29

8.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Remove sand and plugs

2-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241

SC 08-02-27 (1)

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

AWM 8-3-10

1-Polish entire outside surface of crosstube

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DP 8-3-10

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of machining

AWM 8-3-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 37055

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DP

8-3-25

13.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

FL 8-3-26

14.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

08/03/26 (1)

15.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

EL/SD  
8-3-26

76 8-3-27

16.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

50 8-3-27

17.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/09/28 (1)

18.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/09/28 (1)

19.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 6020

LPI as per ASTM 1417 Level 2

08/10/31 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 37055

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

Attach copy of NDT results to work order

20.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

*12/3/28*

21.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: DIMENSIONAL CHECK

Inspect for damage & ensure results are as per Dwg D212-664-241

*ml 08 03 29 (1)*

22.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

*ml 08-03-28*

23.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

*ml 08 03 29 (1)*

24.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2940-1

Support

*32780*

*ml 08 03 29*

25.0

D3595

Rubber Cushion (per sq ft)



Comment: Qty.: 0.0242 sf(s)/Unit Total : 0.0242 sf(s)

Rubber Cushion (per sq ft)

.63" x 5.300

Batch:

*35125*

*ml 08 03 29*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number: 37055

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28

Clamp

106864

ml 08 03 29

27.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

A/R 6398 Magnobond

Batch: 106695

Expiry Date: 04/2009

Time: 4:15 pm

2-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.

ml 08 03 29 (1)

ml 08 03 31

28.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/03/31 (20)

29.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

30.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Placard

Batch: 134954

sc

31.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: 1107008

8/3/31

sc

(14)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number: 37055

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

AN641A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M104427

SP

33.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch: M106552

SP

34.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch: M105077

8/3/31

SP

(V)

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

02/01/01 (V)

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-201

8/4/1

SP

(V)

37.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/4/12

DA

Job Completion



mf

08-04-01.

W

B37055

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	31035
<b>Description:</b> Crosstube Assembly (205/212 High Aft)	<b>Part Number:</b>	D212-664-241
<b>Inspection Dwg:</b> D212-664-241 <b>Rev:</b> C		<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

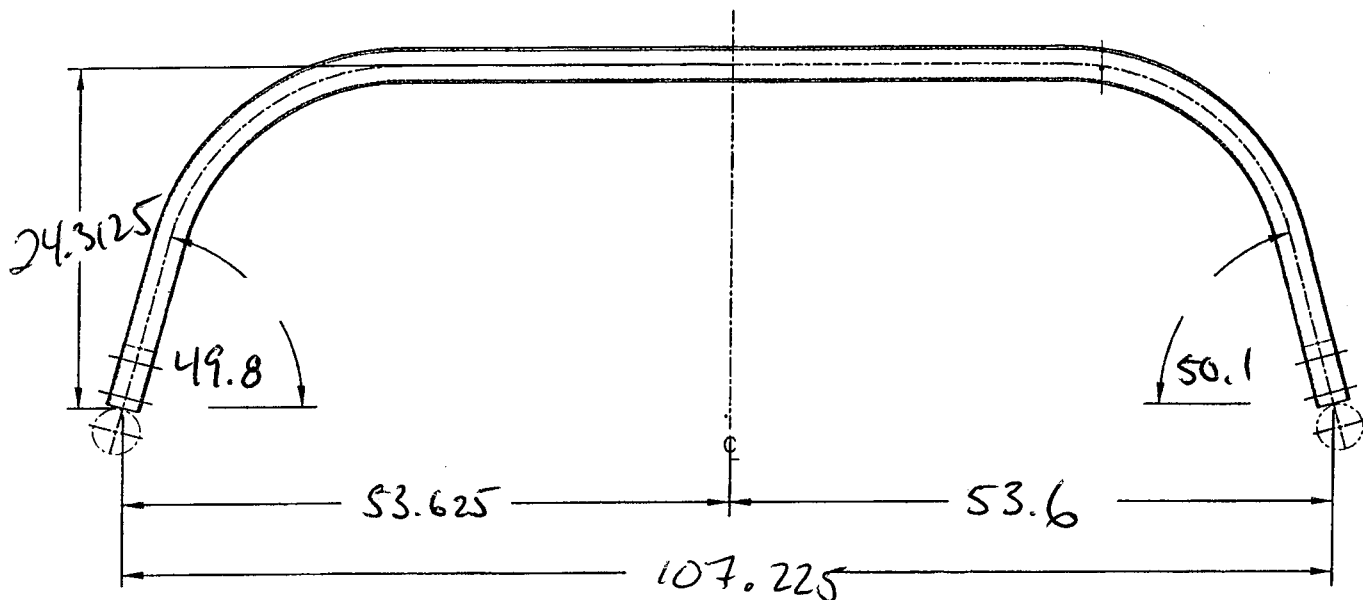
Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	.063	✓			
	2.990	+0.005/-0.000	2.992	✓			
	5.237	+/-0.030	5.237	✓			
	2.600	+0.005/-0.000	2.603	✓			
	2.686	+0.005/-0.000	2.690	✓			
	2.770	+0.005/-0.000	2.774	✓			
	2.854	+0.005/-0.000	2.858	✓			
	2.938	+0.005/-0.000	2.942	✓			
	3.021	+0.005/-0.000	3.025	✓			
	3.133	+0.005/-0.000	3.137	✓			
	3.179	+0.005/-0.000	3.182	✓			
SIDE B	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	.063	✓			
	2.990	+0.005/-0.000	2.992	✓			
	5.237	+/-0.030	5.237	✓			
	2.600	+0.005/-0.000	2.603	✓			
	2.686	+0.005/-0.000	2.690	✓			
	2.770	+0.005/-0.000	2.773	✓			
	2.854	+0.005/-0.000	2.857	✓			
	2.938	+0.005/-0.000	2.941	✓			
	3.021	+0.005/-0.000	3.025	✓			
	3.133	+0.005/-0.000	3.137	✓			
	3.179	+0.005/-0.000	3.182	✓			
	124.36	+/-0.020	124.36	✓			

<b>Measured by:</b>	BF	<b>Audited by:</b>		<b>Prototype Approval:</b>	N/A
<b>Date:</b>	08.02.27	<b>Date:</b>		<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	37055
<b>Description:</b> Crosstube High Aft (205/212)	<b>Part Number:</b>	D212-664-201
<b>Inspection Dwg:</b> D212-664-241 <b>Rev:</b> C		<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments

QC15 Inspection	<i>[Signature]</i>
Date	

08.03.26

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM <i>[Signature]</i>	<i>[Signature]</i>



DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D212-664-241	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

**RELEASED**  
07.04.24 *PH*  
PER E.A.N. 2009

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP (OR MS21920-30)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

#### GENERAL NOTES:

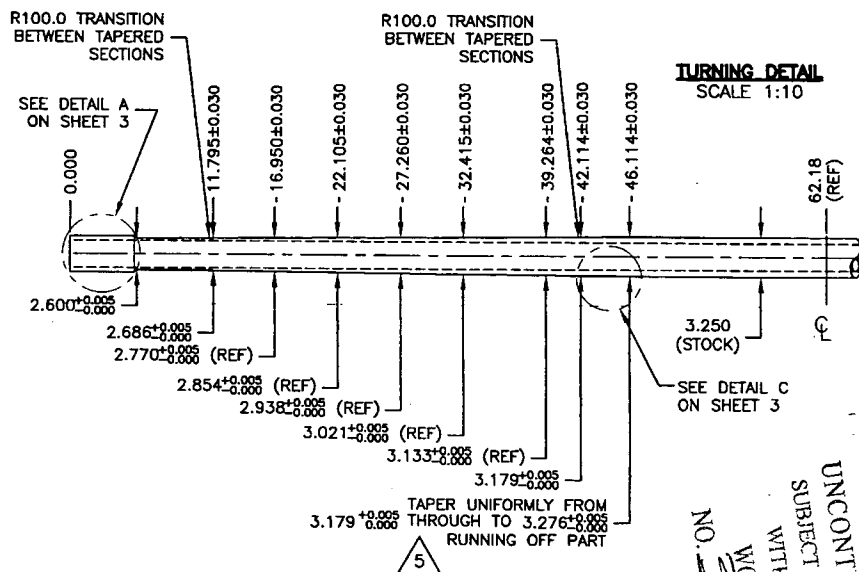
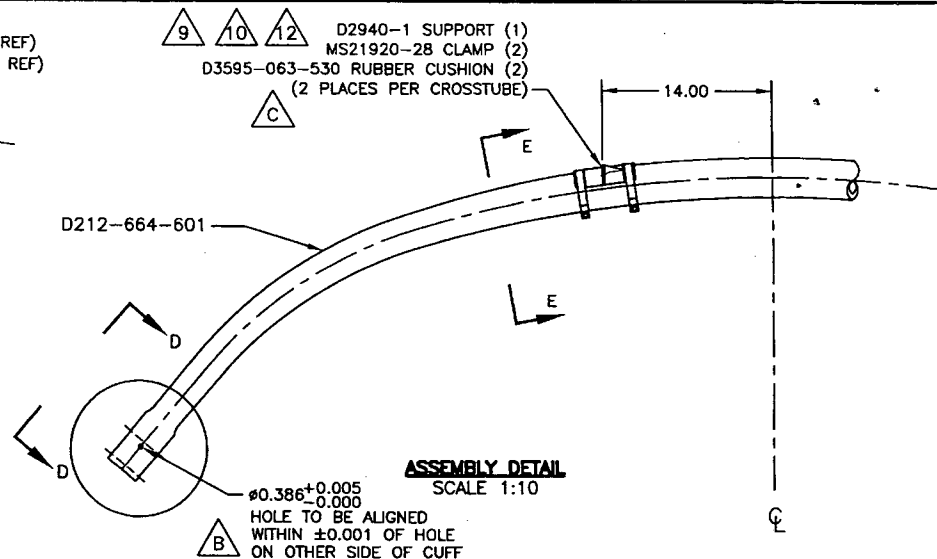
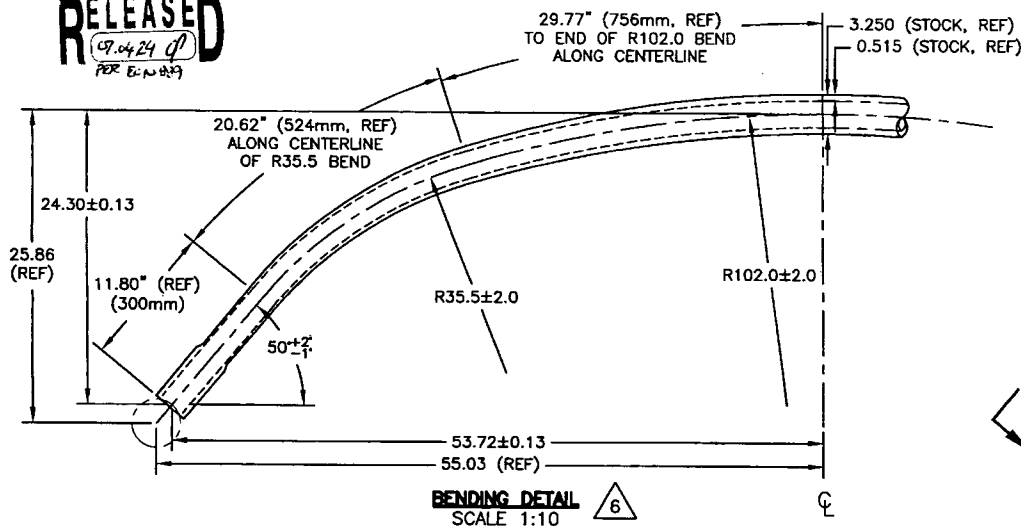
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURED FROM D6006-129  
FINISHED LENGTH =  $124.36 \pm 0.020$
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1 SUPPORT ON TOP SIDE OF CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT  
**NOTE:** MS21920-30 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 37055

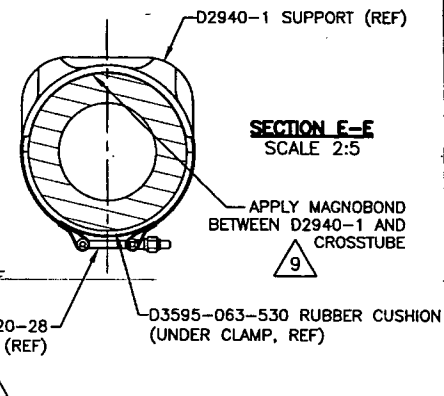
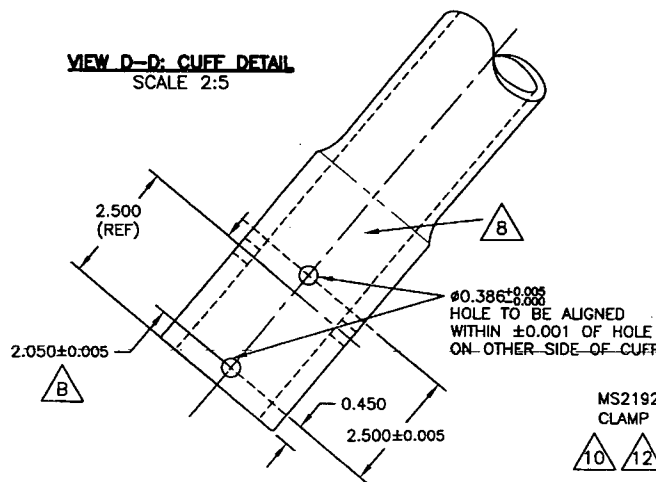
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**RELEASED**  
(9.04.24) *PH*  
PER E: 10.0.13



**VIEW D-D: CUFF DETAIL**  
SCALE 2:5



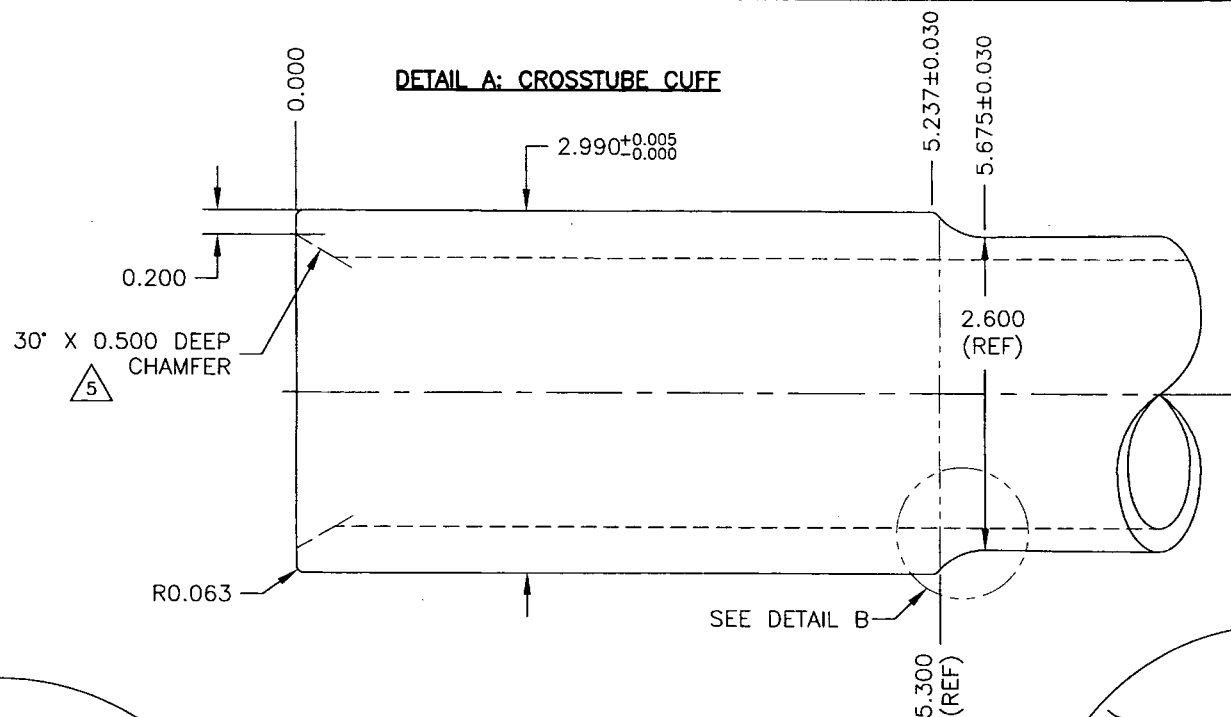
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ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
NO. 37035  
WORK ORDER

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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED <i>J</i>	APPROVED <i>A</i>	DRAWING NO. D212-664-241
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT)		REV. C SHEET 2 OF 3 SCALE 1:10

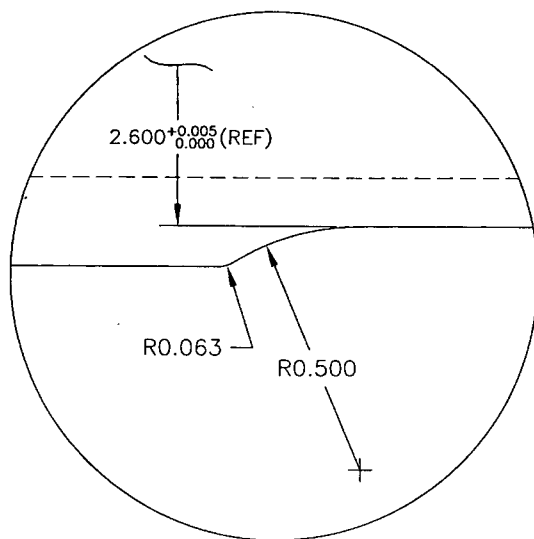


**RELEASED**  
 07.04.24  
 PER ECN 889

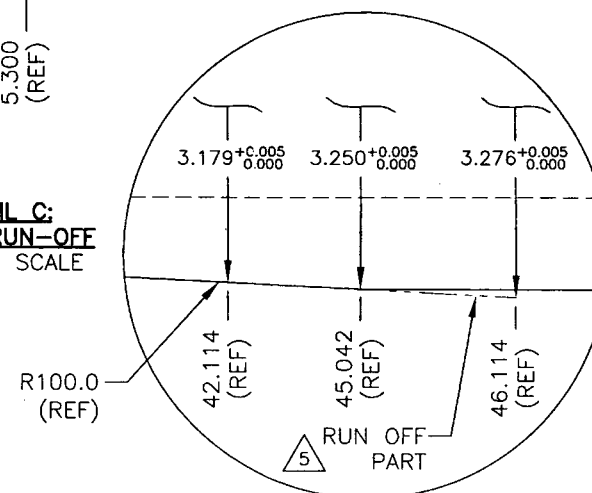
**DETAIL A: CROSSTUBE CUFF**



**DETAIL B: CUFF  
TRANSITION  
SCALE 4:1**



**DETAIL C:  
TAPER RUN-OFF  
NOT TO SCALE**



NO. 37055  
 WORK ORDER  
 WITHOUT NOTICE  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 ENGINEERING  
 RETURN TO  
 SHOP COPY

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DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D212-664-241
DATE 07.03.08	TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	REV. C SHEET 3 OF 3 SCALE 1:1





## LIQUID PENETRANT TEST REPORT

P - 1262 1

CLIENT	DART AEROSPACE	DATE	MAR 28 2008	PAGE	1	OF	1
ATTENTION	LINDA LACELLE	ACUREN JOB NO.	188 08 1262	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>	
ADDRESS	1270 ABERDEEN ST	POWOW No.	6020				
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY				
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005		
PROJECT	212/205 HIGH AFT X TUBE, 206L AFT X TUBES						
ITEM(S) EXAMINED	JOB #S 212/205 37055, 37057, 206L -36977, 36979.						

JOB DESCRIPTION	PROCEDURE NO. LT-0002	REV./DATE	TECHNIQUE NO. LT-TECH2	REV./DATE
'PART No. D212664201/D206667203		MATERIAL ALODINED ALUM.		THICKNESS
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE				

TEST DETAILS						
METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED	
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 $\mu$ W/cm <sup>2</sup>	<input type="checkbox"/> AMBIENT < 2 fc	
PENETRANTZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> TROUBLELIGHT	<input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	CAL FEB 12 08		
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE		
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY			

TEST SURFACE					
SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS-	( <input type="checkbox"/> METRIC <input checked="" type="checkbox"/> IMPERIAL)
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FLUORESCENT LIQUID PENETRANT INSPECTION

CARRIED OUT ON 100% EXTERNAL

SURFACE ON:

212/205 HIGH AFT X TUBE JOB# 37055 37057.

206L AFT X TUBE JOB#: 36977, 36979.

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE			DTR # E 21524
TECHNICIAN (SIGNATURE):			REPORT REVIEWED BY:
NAME (PRINT):	JASON HEWETT		NAME INITIALS
	1 <sup>ST</sup> TECHNICIAN	2 <sup>ND</sup> TECHNICIAN	
CGSB LEVEL	2	SNT LEVEL	
CGSB REG. No	6156	CGSB REG. No	

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